

An Aerial Railway, Seventy-Five Miles in Length, to Swing Over Ancient Vale of Kashmir



BRIDGE WITH HILL RANGES IN THE BACKGROUND.

Romantic and Daring Engineering Feat to Be Attempted in Northern India. Aerial Bridge to Be in Spans of 800 Yards Each—Cars Suspended on Fixed Cables. Will Hang Above Steep Gorges. Sometimes 1,200 Feet Beneath Them—Interesting Sidelights on This Stupendous Undertaking.



ADVENTURE SOME engineers are going to find a way of getting into Kashmir from northern India better than those which at present exist. The plan is as romantic as it is daring, although the engineers do not concede that there is anything daring about the enterprise. To them it is a plain construction proposition.

An aerial railway seventy-five miles in length, provided with electricity to be a means of transport. In all the remarkable railway building that is now going on in different parts of the world I do not think there is anything that quite equals this proposed cable way.

Kashmir during the last ten years has been the scene of some bold projects which have been carried to successful conclusion. They have not made the Vale of Kashmir any less inviting, but

they have put it in touch with the development that is everywhere going on. A few years ago I witnessed the installation of a hydro-electric plant which lowered the bed of the unruly Jhelum river and the draining of the Wular lake so as to render a large section of lands suitable for agriculture. There was a large quantity of rich land to be reclaimed, and the only way to accomplish this was by dredging with electricity as the motor power.

The throat of the Jhelum, or the narrow gorge through which it escapes from the Vale of Kashmir, was to be widened so that the waters of the Wular lake would have a sufficient channel of outflow. This work is still going on, but it is far enough advanced to insure early completion.

The surface of the lake already has been lowered by seven feet, and when the level falls another seven feet there will be something like a hundred thousand acres of good farming land added to the resources of the valley. This Jhelum is being widened chiefly by means of paralleling canals and extensive dredging operations are in progress. These will be completed within a few months, and then a notable step will have been taken in modernizing ancient Kashmir.

One project which was in mind some years ago has not yet been brought to a head. It was recalled to me last November at Ludhiana, the center of the Chilian nitrate fields, when the question was asked whether the project of manufacturing nitrate from sea water was still a probability. The Chilian nitrate fields are not of soda, which exists in the natural state. The possibility of competition from artificial fertilizers is always before the Chilians.

The Kashmir project as it was originally discussed, was based on the discovery of Danish chemists that the nitrogen of the air could be extracted in the regions where there was abundant limestone and ample water power and an artificial fertilizer be manufactured.

This has been done successfully in Norway, where there is abundant water power for electricity, and the Norwegian nitrates have become an article of commerce. It was placed in an English company was formed to exploit Egyptian districts. In Kashmir there is plenty of limestone and plenty of water power for generating electricity.

The Punjab great wheat-growing region of India is next door to Kashmir, and if artificial fertilizers could be manufactured on a large scale the Punjab would furnish employment after they succeeded in getting these masses of steel safely on the beach and thence over a rugged road of the mountains' making to some point of strategic advantage. This was putting in practical application the lessons taught and learned at the schools of application and advance base instruction.

undertake it, or possibly it is in abeyance until more important enterprises can be carried through.

Railway construction is of greater importance than the manufacture of artificial fertilizer, which would be an incident in the development of Kashmir's resources. Better means of access is important to the India government, which is Great Britain, and to Kashmir itself, for Kashmir is the highway to and from central Asia, and the converging routes need a central outlet.

The Punjab with its five rivers and its wheat and cotton areas extends up to the front door of Kashmir. The railway station of Rawalpindi is the real beginning of the journey. From Rawalpindi it is also possible to branch off to the Khyber Pass into Afghanistan, but it is much easier to get into Kashmir than into Afghanistan.

The Ameer of Afghanistan has been invited against foreigners and does not want his country modernized. The Maharajah of Kashmir, backed by his durbar, or state council, is progressive and hospitable to foreigners, though they may not acquire land.

From Rawalpindi there is a very good road along the crooked course of the rocky Jhelum. One hundred miles of it is a thrilling road for the traveler, cut through overhanging precipices and leading cliffs. Another hundred miles is not so bad. Various vehicles are in use, but the motor car now has the preference.

The trouble with it is that the road is so frequently congested with the endless processions of bullock carts that rapid locomotion is difficult. The bullock carts with the natives tramping alongside them will not yield the right of way.

The favorite native vehicle is the two-wheeled tonga. It is the government mailcart as well. Riding in the mailcart is not very comfortable, as I found from my own experience. This was when the road had been closed to all conveyances except the mailcart because Lord Minto, the viceroy of India, was coming down from a visit to Srinagar, the capital, and the authorities had cleared the way for him as they thought due the highest British official in India.

Many other British officials and army officers were in Kashmir at the same time, and some civilians on their vacation. They made loud outcry, and for weeks thereafter the thousands of disappointed British officers and army officers were in Kashmir at the same time, and some civilians on their vacation. They made loud outcry, and for weeks thereafter the thousands of disappointed British officers and army officers were in Kashmir at the same time, and some civilians on their vacation.

The hold conception of the aero-cable way across the Himalayas and along the gorge of the Jhelum found a more favorable basis. It is this which is soon to be inaugurated. The proposed system has been submitted in a report to the State Department by Consul Henry D. Baker. The cableway will be constructed in big spans of 800 yards each, with fixed cables

held by iron pillars or towers of lattice-work, some of which will be 100 feet high. There will be separate sections every five miles, and each section will be supported by a single cable for outgoing and incoming cars.

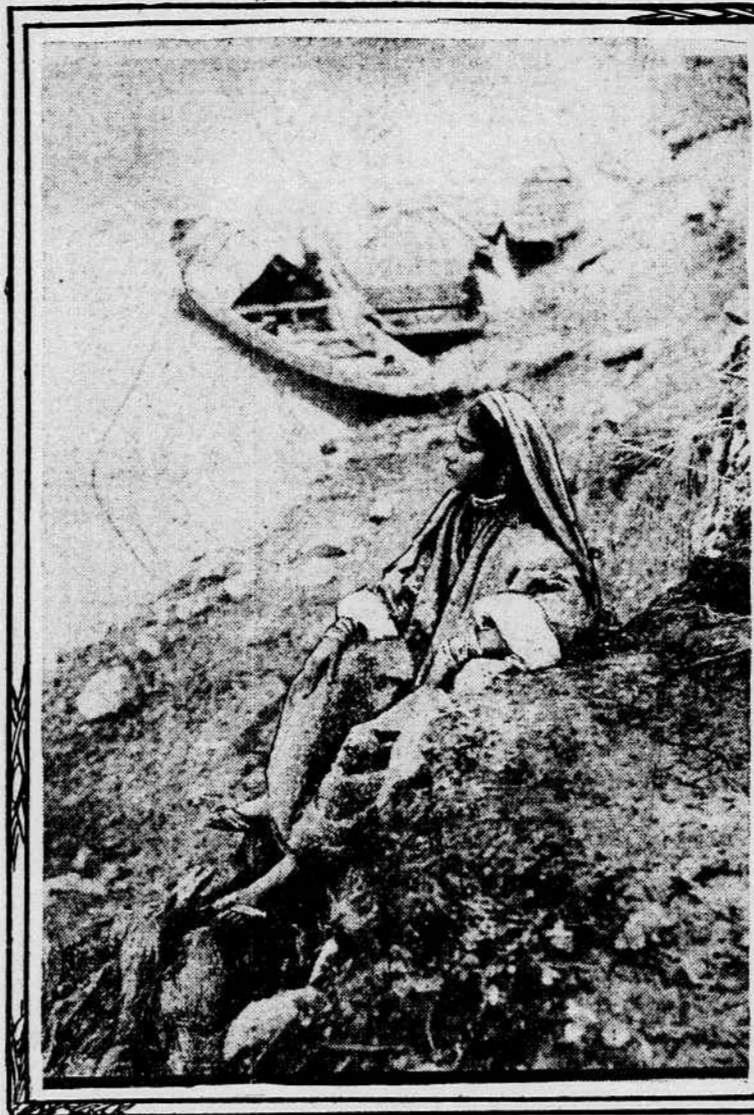
These cars of cable steel will be suspended and conveyed about thirty to forty feet above sea level, and in some cases of 1,200 feet. The transfer of cars from section to section will be automatically accomplished by revolving drums which will effect release of the cars and their renewed gripping to the hauling ropes of the next section. Other details are more technical than of general interest.

From Abbottabad the aerial cable way will extend to Baramulla, which is the open door, topographically speaking, to the vale of Kashmir. Baramulla is about 5,200 feet above sea level, and Abbottabad is 4,300 feet, so that the aerial railway will have an upgrade of a thousand feet in the seventy-five miles it traverses. Somewhat unnecessarily the statement is made that the line will be utilized in the beginning for freight only, and not for passengers.

Travelers into Kashmir will therefore continue to use the motor cars or the tongas. Yet it is thought that in time, when its success as a freight transportation line has been demonstrated, the aerial cableway also may carry passengers.

Possibly tourists who have tried the aerial railway in Rio de Janeiro from the mainland to the top of Sugar Loaf mountain, will insist on trying the Kashmir line for the sake of the experience.

Though Baramulla will be the terminus of the aerial railway there will still be nearly forty miles to be covered before Srinagar can be reached. Baramulla is at the head of the lake district, and in



A BOAT GIRL OF KASHMIR, INDIA.

at Rawalpindi who get to get into Kashmir at that time. While they were venturing their indignation I got a seat among the mailbuses and went off in the night time. It was an uncomfortable trip, broken only by the night's relief at the rest houses or bungalows maintained by the Kashmir government. These provide the traveler with shelter, while he provides his own food.

The return journey in a private tonga with relays of horses at the different rest houses was not uncomfortable. Both the trip up and the trip down gave me an excellent idea of the difficulties which are in the way of getting an ordinary railroad into the vale of Kashmir. They are engineering difficulties, and it is not necessary to recount them in detail.

At that time the railway project was thought to be feasible. It was planned to build an ordinary broad-gauge steam railway from a point on the India government railway, beyond Rawalpindi to Abbottabad, then a narrow-gauge line to be operated by electricity was to be built to Srinagar. The cost of this project was estimated at \$10,000,000, but when the engineering studies were completed the plan had to be abandoned.

For a while hopes were entertained that the mono-rail system might prove practical. But experiments showed that the nature of the soil loosened by the flow of the Jhelum and its tributary streams, and the number of sharp turning angles would render the project unworkable, and the mono-rail, too, had to be abandoned.

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Caravans from Yarkand, the gateway to Chinese Turkestan, also have Srinagar as their objective point. There is not so much commerce from Leh, but there are reasons of state for keeping the route open to trade although closed to individuals who may not be acceptable.

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Srinagar itself is mildly expected regarding the aerial railway and other enterprises. The maharajah and his state council are far more progressive than the mass of the people. The native Kashmirians, whether Hindus or Mohammedans, accept progress as a form of fatalism.

Kashmir is an independent native state with far more independence than most of the native states of India, but England is there in the personality of the British resident, and the British resident, while in the background, exercises a potent influence on the policies of Kashmir, although supposed to limit himself to foreign affairs. It is to the interest of England that these shall be the policies of national development and the encouragement of the industries of the state.

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There seems to be a good deal of Persian in Kashmir. Though the maharajah is Hindu and follows strictly the requirements of the Hindu religion, a large majority of the people are Mohammedans. Persian customs obtain.

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A HINDU PRIEST AND HIS BROTHERS.

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VERA CRUZ ADDED NEW LAURELS TO BATTLE RECORDS OF MARINE CORPS.

New Entry on the Bright Scroll of the Fighting Marine Corps—Men Trained for Every Duty They May Encounter in War—Once More Have They Shown the Fine Courage and Steadiness That Take Them to the Forefront of the Fighting—They Excel in Military Accomplishments.



MOUNTING HEAVY GUNS TO HOLD AN ADVANCE NAVAL BASE.

VERA CRUZ—another name to be added to the battle records of the Marine Corps. Once more these splendid foot soldiers have shown the stuff of which they are made. Again they have taken the forefront of the fighting, have faced the sacrifice of life and blood, and also have shown that steadiness and fine courage which have marked them always and have so well justified the corps motto, "Semper Parati." The Marines during the last ten years have been the scene of some bold projects which have been carried to successful conclusion. They have not made the Vale of Kashmir any less inviting, but

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One project which was in mind some years ago has not yet been brought to a head. It was recalled to me last November at Ludhiana, the center of the Chilian nitrate fields, when the question was asked whether the project of manufacturing nitrate from sea water was still a probability. The Chilian nitrate fields are not of soda, which exists in the natural state. The possibility of competition from artificial fertilizers is always before the Chilians.

The Kashmir project as it was originally discussed, was based on the discovery of Danish chemists that the nitrogen of the air could be extracted in the regions where there was abundant limestone and ample water power and an artificial fertilizer be manufactured.

This has been done successfully in Norway, where there is abundant water power for electricity, and the Norwegian nitrates have become an article of commerce. It was placed in an English company was formed to exploit Egyptian districts. In Kashmir there is plenty of limestone and plenty of water power for generating electricity.

The Punjab great wheat-growing region of India is next door to Kashmir, and if artificial fertilizers could be manufactured on a large scale the Punjab would furnish employment after they succeeded in getting these masses of steel safely on the beach and thence over a rugged road of the mountains' making to some point of strategic advantage. This was putting in practical application the lessons taught and learned at the schools of application and advance base instruction.